Incentives on Packaging Waste Financing: A Step Forward for Sustainability

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The experience in the waste sector points to irrefutable advantages in recycling some types of packaging waste. Indeed, even before the Directive 94/62/EC on Packaging and Packaging Waste (PPW) entered into force, significant quantities of packaging were recycled in several member states. The recycling of packaging waste diminishes the consumption of raw materials. Moreover, the resulting decrease in waste to be disposed of is likely to increase the lifetime of sanitary landfills. Besides the potential financial savings with landfilling, reducing the quantity of waste to be disposed or incinerated should lead to less soil and water contamination (reduced emissions). Globally, recycling can help the competent authorities to attain a better management of natural resources (raw materials, territory, water and soil quality levels, etc.).

However, recycling is not all advantages. It is quite certain that this process comes with extra-costs either for the private or public sector actors (arguably, taking the form of higher prices of goods or additional waste management tariffs or taxes). Moreover, the resulting products of recycling packaging waste can have a rather low market value (sometimes even negative), especially for the cases where raw materials are inexpensive.

Taking this two conflicting realities into account, one should also bear in mind that, nowadays, recycling can be a source of technological innovation, job creation and, perhaps even more important, it might be a catalyst for making the industry internalize the environmental and social impacts associated with its activities. Ultimately, if one is able to find the optimal recycling rates (for each type of material and considering the outcomes of other strategies like incineration with energy recovery) it might be possible to achieve a lower overall economic cost.

According to the PPW Directive (and to the polluter-pays principle) "those involved in the production, use, import and distribution of packaging and packaged products" must accept the responsibility for packaging waste. Naturally, consumers and public authorities should cooperate with the economic operators (suppliers of packaging material, packaging producers and converters, fillers and users, importers, traders and distributors) in the implementation of measures to manage this waste in an environmentally sound manner, within a spirit of shared responsibility.

A relevant aspect in this process and in the correct implementation of Extended Producer Responsibility (EPR) system is related to the financing of the recycling system. In this regard, a new approach was set in Portugal, based on incentives in terms of efficiency (base cost per material), effectiveness (concerning the packaging waste collected and the corresponding target for the material) and quality of service provided to the user (which considers, for example, the average distance of containers to the population, etc.).

Taking these three aspects into account, we came up with the following formula to determine the financial compensation for the packaging waste collected by the operators and paid by the green dot company:

$$FC^* = FC(STR) \times \left[\frac{Collection}{Target} \right] \times (1 + K)$$

Where,

- FC* - represents the financial compensation per material, in euros per ton;

- FC (STR) - represents the amount of financial compensation obtained through the standard company sizing by groups of operators with homogeneous characteristics and dynamics and, by material, in euros per ton;

- Collection - represents the daily production of material taken up by the operator in kg per capita per year;

- Target - represents the goal (of waste collected and sent to recycling) of the operator per material and per year, according to the legislation;

- K - corresponds to a coefficient of correction of the financial compensation of the operator according to the level of quality of service provided to the user (which can assume the values of 5%, 0%, -5% or -10%).

This new approached aimed to assure the financial sustainability of the operators, to introduce incentives for a more efficient service and to promote the quality of service provided to the users.